



## WORK-RELATED CARDIOVASCULAR DISEASES

### WHAT IS THE PUBLIC HEALTH PROBLEM?

- An estimated 59.7 million Americans have cardiovascular disease (heart disease), which remains the leading cause of death for both women and men in the United States.
- Rates of cardiovascular disease vary substantially among different occupational groups. Men have a 9-fold difference between high- and low-risk occupations, and women have a 5-fold difference.
- Prevalence of certain factors (e.g., job stress, shift work, and persistently long work hours) contributes to the development of heart disease. Environmental tobacco smoke also may contribute to heart disease, particularly in occupations with high exposure.
- More than 9 million Americans are exposed to a high level of noise at work, which causes short-term increases in blood pressure and possibly leads to chronically high blood pressure, one of the leading risk factors for cardiovascular disease.

### WHAT HAS NIOSH ACCOMPLISHED?

The National Institute for Occupational Safety and Health (NIOSH) has conducted preliminary research to evaluate the role of occupational factors in cardiovascular disease and has undertaken research and public health activities to improve employer protections for workers exposed to potential risk factors.

#### *Examples of program in action:*

- Conducted a study of heart disease and job stress that found that having increased job control, which can reduce job stress ([www.cdc.gov/niosh/heartdis.html#stress](http://www.cdc.gov/niosh/heartdis.html#stress)), was associated with lower incidence of ischemic heart disease.
- Conducted a study of shift work ([www.cdc.gov/niosh/heartdis.html#shift](http://www.cdc.gov/niosh/heartdis.html#shift)) and heart disease among blue-collar workers that found no relationship between non-rotating shift work and the risk of heart disease.
- Conducted an analysis of studies that examined the association between occupational exposure to environmental tobacco smoke ([www.cdc.gov/niosh/heartdis.html#tobacco](http://www.cdc.gov/niosh/heartdis.html#tobacco)) and heart disease; these studies indicated an increased risk of heart disease of approximately 20% - 30% among exposed workers, resulting in 1,710 deaths annually among workers aged 35 - 69 years.

### WHAT ARE THE NEXT STEPS?

NIOSH will conduct three studies to provide more definitive findings on the role of occupational factors in cardiovascular disease. NIOSH is planning a 5-year prospective study of 20,000 men and women that will evaluate the relationship between job stress and both cardiovascular disease and hypertension while accounting for leading risk factors (e.g., smoking). NIOSH will also conduct a 3-year prospective study of workers that will evaluate the relationship between noise and blood pressure. Finally, NIOSH will analyze data from the third National Health and Nutrition Examination Survey and the O\*NET system to examine relationships between specific occupational variables and symptoms of heart disease.

*For additional information on this and other NIOSH programs, visit [www.cdc.gov/niosh](http://www.cdc.gov/niosh).*

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